
Integrated Planning for Meeting Clean Water Act Requirements

NAFSMA STORMWATER COMMITTEE

Introduction

Since the passage of the Federal Clean Water Act (CWA) in 1972, the Environmental Protection Agency (EPA) and the states have been continually reducing the effects of pollutants on the nation's waterways. Many successes have occurred in the past 40 years toward this goal. However, much is left to be done. In 1987, the CWA was amended to include stormwater runoff and in 1990, EPA published rules to regulate eleven categories of stormwater discharge to waters of the U.S. In 1999, EPA published the other half of the stormwater regulations to address the smaller dischargers.

One primary area where EPA, through the states, has focused its enforcement activity is the reduction of Combined Sewer Overflows (CSOs) and Sanitary Sewer Overflows (SSOs). Older cities have combined sewer systems in which both sanitary sewage and storm water enter the sewer system and are conveyed to the treatment plant. During some rainfall events, the combined sewers overflow, generally to designed discharge points.

EPA published its CSO policy on April 19, 1994, in 59 Federal Register 18688. Under this policy, EPA established nine minimum technology-based control measures, including:

- Proper operation and regular maintenance programs for sewer systems and the CSOs;
- Maximum use of the collection system for storage;
- Review and modification of pretreatment requirements to assure CSO impacts are minimized;
- Maximization of flow to the publicly owned treatment works for treatment;
- Prohibition of CSOs during dry weather;
- Control of solid and floatable materials in CSOs;
- Pollution prevention;
- Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, and
- Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

The overall goal of EPA with regard to CSOs is for CSO agencies to achieve no more than one discharge per outfall per year. There is flexibility in this goal that is to be based on:

- Clear levels of control to meet health and environmental objectives;
- Flexibility to consider the site-specific nature of CSOs and to find the most cost-effective way to control them;
- Phased implementation of CSO controls to accommodate a community's financial capability, and
- Review and revision of water quality standards during the development of CSO control plans to reflect the site-specific wet weather impacts of CSOs.

Additionally, EPA policy on SSOs has been to prohibit discharges from occurring.

EPA initiated audits of CSO and SSO utilities and, where deficiencies were found, took enforcement actions. Most enforcement actions have been in the form of administrative orders on consent (consent decrees, or CDs) lodged in a federal court. These CDs were typically developed in collaboration with the

utility and include a number of specific projects to reduce CSOs and eliminate SSOs over a defined schedule. Some projects included separation of sanitary and storm sewers, storage of combined sewer water in subsurface systems, wet weather treatment, increased operations and maintenance, or increased flow capacity projects, among others. Once lodged in a federal court, the CDs were enforceable and fines and other enforcement actions were stipulated. Additionally, under the CWA, third parties could file suit against EPA, the state, and the utility; and potentially be paid damages including their legal costs if CDs were not enforced.

Under the amendments to the CWA in 1987 that regulated storm water discharges from Municipal Separate Storm Sewer Systems (MS4s), EPA, through the states, required that storm water discharges from MS4s be permitted under the National Pollutant Discharge Elimination System (NPDES). The NPDES program for stormwater, at first required that MS4s implement the six minimum control measures (MCMs) to the Maximum Extent Practicable (MEP). These MCMs include:

1. Public Outreach and Education;
2. Public Involvement;
3. Post Construction Runoff Control (new development and redevelopment Best Management Practice [BMP] requirements);
4. Pollution Prevention and Good Housekeeping (Municipal Operations);
5. Construction Site Runoff Control; and
6. Illicit Discharge Detection and Elimination.

The NPDES MS4 program was separated into Phase I (communities greater than 250,000 persons or groups of communities comprising a municipal region greater than 250,000 persons), and Phase II (communities with fewer than 250,000 persons). Phase I was implemented beginning in 1990 and Phase II began in 2003. The NPDES permits had 5-year cycles, with additional requirements added to the permits during renewal if receiving water impairments continued or were detected.

With the implementation of the stormwater NPDES MS4 program, cities with both sanitary sewers (combined or separate) and storm sewers now had two (or more) NPDES permits for discharge of waters.

Additionally, due to the continuation of impairments in receiving waters, EPA, through the states, began adopting total maximum daily loads (TMDLs) for a number of receiving waters. Many of these were accelerated due to litigation by third parties. These TMDLs are amendments to the water quality control plans for the receiving waters. Water quality control plans define the beneficial uses and water quality criteria necessary to achieve or maintain the beneficial uses of those receiving waters. These water quality control plans are the defining documents for a receiving water that are used to set NPDES permit conditions. If receiving waters are impaired as defined in that water body's water quality control plan, then, under section 303(d) of the CWA, EPA, through the states, has the option to amend the water quality control plan with a TMDL. A TMDL is the maximum mass load of a pollutant that can enter a receiving water from all sources that will not result in the receiving water being impaired. The TMDL is to take into account naturally occurring sources and then determine, through monitoring, modeling, and other best available science, the maximum load of a specific pollutant that those controllable discharge sources can contribute each day that will not result in impairment of the receiving water.

In some parts of the U.S., TMDLs have been adopted and loads are being incorporated into NPDES permits for stormwater and wastewater. This is changing stormwater NPDES permits from an MEP standard (i.e., a technology-based effluent limit standard) to a mass loading or water quality based effluent limit (WQBEL) standard.

In response to increasing costs of controlling discharges from CSO, SSO, and MS4 systems, utilities requested that EPA consider an alternative approach to the audit, consent decree, and enforcement mechanisms that had been employed to date for CSO and SSO issues. The utilities claimed that investing in CSO and SSO controls may cost more for each pound of pollutant load removed than if they were to implement MS4 controls; therefore, they sought a more integrated approach to improving water quality in the receiving waters.

In October 2011, EPA announced an initiative to develop an integrated approach for local communities to address the NPDES permitting needs of the MS4s as well as the combined sewer systems, and possibly the sanitary sewer systems in meeting CWA requirements. In June of 2012, EPA published the final framework for the integrated approach. EPA explicitly states that this approach does not reduce the requirements of the CWA nor does it extend the time for compliance. They go on to state that it does allow a local community to focus resources on the most apparent needs in order to get the most benefit for the resources spent on capital improvements, operation, and maintenance. Initially, this approach was thought to be focused on communities with combined sanitary and stormwater collection systems. However, EPA has recently clarified this to indicate that separate sanitary and storm collection systems can also use the integrated approach.

Background

EPA agreed to work further with states and communities to implement integrated approaches in an October 27, 2011 memorandum titled “*Achieving Water Quality through Integrated Municipal Stormwater and Wastewater Plans.*” These concepts were developed to allow permittees to take advantage of the use of green infrastructure (GI) and to be able to apply resources to achieve the largest return on the investment for improved water quality.

EPA published in the Federal Register Vol. 77, No.7 (January 11, 2012), a notice to the public that they would be hosting a series of workshops on integrated municipal stormwater and wastewater plans to meet water quality objectives of the CWA. Stakeholders were invited to attend one or more of these workshops and participate in the discussion and comment. These five workshops, which occurred from January 31 through February 17, 2012, consisted of a large audience and a small panel of interested parties, with the discussion facilitated by an EPA contractor. NAFSMA was represented by a member-panelist at one of these workshops. As part of the workshops, EPA collected feedback from the regulated community and others on the proposed integrated permitting framework with the intent to release the final framework by mid-summer 2012.

On June 5, 2012 through a memorandum from Nancy Stoner to EPA Regional Administrators and Regional Permit and Enforcement Administrators, EPA released the final draft of the integrated permitting framework.

Integrated Planning

The integrated permitting framework is meant to provide flexibility to NPDES permittees in addressing their most pressing water quality improvement needs. In recent years, EPA has embraced the integrated planning approaches to municipal wastewater and stormwater management. This approach can help provide states with guidance on how to approve and implement a system-wide approach to water quality management.

It is clear that in no way does EPA mean for this approach to be used to avoid compliance with any CWA requirement. However, it is intended to enhance the ability of communities faced with multiple NPDES requirements to have flexibility in compliance with those requirements. EPA has developed the following

overarching principles and guiding principles for municipalities and communities to use in the development of integrated plans.

Overarching Principles

1. This effort will maintain existing regulatory standards that protect public health and water quality.
2. This effort will allow a municipality to balance CWA requirements in a manner that addresses the most pressing public health and environmental protection issues first.
3. The responsibility to develop an integrated plan rests with the municipality that chooses to pursue this approach. Where a municipality has developed an initial plan, EPA and/or the State will determine appropriate actions, which may include developing requirements and schedules in enforceable documents.
4. Innovative technologies, including green infrastructure, are important tools that can generate many benefits, and may be fundamental aspects of municipalities' plans for integrated solutions.

Guiding Principles

1. Reflect State requirements and planning efforts and incorporate State input on priority setting and other key implementation issues.
2. Provide for meeting water quality standards and other CWA obligations by utilizing existing flexibilities in the CWA and its implementing regulations, policies and guidance.
3. Maximize the effectiveness of funds through analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance
4. Evaluate and incorporate, where appropriate, effective sustainable technologies, approaches and practices, particularly including green infrastructure measures, in integrated plans where they provide more sustainable solutions for municipal wet weather control.
5. Evaluate and address community impacts and consider disproportionate burdens resulting from current approaches as well as proposed options
6. Ensure that existing requirements to comply with technology-based and core requirements are not delayed.
7. Ensure that a financial strategy is in place, including appropriate fee structures.
8. Provide appropriate opportunity for meaningful stakeholder input throughout the development of the plan.

EPA has identified the following six elements that should be included in the integrated plan.

Plan Elements

1. A description of the water quality, human health and regulatory issues to be addressed in the plan,

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2. A description of existing wastewater and stormwater systems under consideration and summary information describing the systems' current performance.
 3. A process which opens and maintains channels of communication with relevant community stakeholders in order to give full consideration of the views of others in the planning process and during implementation of the plan.
 4. A process for identifying, evaluating, and selecting alternatives and proposing implementation schedules.
 5. Measuring success - As the projects identified in the plan are being implemented, a process for evaluating the performance of projects identified in a plan, which may include evaluation of monitoring data, information developed by pilot studies and other studies and other relevant information.
 6. Improvements to the Plan.

EPA provides some additional guidance for implementation of the integrated plans once they are developed. They recommend that the plans be implemented through incorporation into the NPDES permits of the respective communities/utilities or through an enforcement action such as an Administrative Order or CD. EPA acknowledges that some issues between the state's and EPA's compliance and enforcement, as well as permit writers groups can exist.

Advantages of the Integrated Approach

1. Improved efficiencies for implementation of practices to improve water quality as well as improvements to water quality in streams and rivers.
2. By allowing all permittees to work together toward water quality improvements we may see achievements of meeting WQBELS more timely for some waters.
3. It should increase the flexibility for local agents responsible for NPDES compliance to pool resources and focus on "hot spots" to make improvements with greater efficiencies at lower cost to each.
4. There can be value in involving stakeholders and NGOs as appropriate to achieve buy-in and support for the program implementation.
5. It can bring different parties together to focus on common problems from different perspectives to allow better collaboration.
6. It could foster political support for collaboration among agencies where politicians may see this as a cost reduction opportunity.

Challenges for Plan Development and Implementation

Several obstacles exist in most jurisdictions in the planning and implementation of an integrated permit or enforcement action. The following represent a few of these challenges:

1. In many cases, multiple local government agencies must be brought together to develop the plan and share the cost of the implementation and long-term maintenance of projects identified in the

plan. Cross funding of solutions would be required and may not be possible due to local ordinances. Local political actions, and in some cases, changes to state laws would be required. This is particularly true in cities and counties where utilities are owned by special districts that are not controlled by the city or county government.

2. If the plan is enforced through an enforcement action there could be issues of separate culpability among agencies for various components.
3. Little or no protection is offered from third party lawsuits through the process should some of the novel (and consequently untested) techniques not produce the desired results. Non-governmental organizations (NGOs) may be part of the process but will be the first and harshest critics to file third party complaints seeking damages. When a permittee makes a good faith effort to undertake this permitting approach, there are no additional protections from third party lawsuits and other legal actions under the integrated permitting framework unless it is driven by a consent decree or other enforcement action.
4. Confusion and disagreement could be prevalent among state and federal regulators on approval of innovative untested techniques. This could put the permittee in an expensive “no win” situation and subject to third party scrutiny and litigation.
5. Integrated planning will often require interagency agreements among local agencies to allow smooth and defined interaction for implementation. These interagency agreements are difficult to develop and problematic to enforce.
6. The integrated permitting approach may not work well in regions where multiple entities have overlapping or separate responsibility for water, sewer and stormwater.

NAFSMA Position

NAFSMA members are stewards of their constituent’s resources, which include water resources, environmental resources associated with those water resources, and financial resources. NAFSMA members share the mission of protecting those resources and providing the greatest value to their constituents, as defined within the local communities. This includes maintaining beneficial uses of receiving waters to the extent that member constituents are willing to fund based on the financial, environmental and social benefits they derive; and limiting flood risk to acceptable levels, also based on the financial, environmental, and social benefits derived from the reduced risk.

NAFSMA is generally supportive of EPA’s framework for integrated planning, and believes, that if crafted and implemented well, it can meet the mission of NAFSMA members to be effective stewards of their constituent’s resources. There are some elements of the integrated planning framework as written that NAFSMA believes may result in inefficient or unnecessary uses of its member’s resources. The following modifications to the integrated planning framework, in NAFSMA’s opinion, should meet both EPA’s goals and the goals of NAFSMA members.

- The strength and benefit of the integrated plan should be in its flexibility – demonstrating receiving water quality benefits while improving the reasonableness of all water infrastructure planning and permitting (including stormwater, wastewater, and water supply and delivery), necessary to protect people and the environment.
- The integrated plan should not consider GI as the only “innovative” method, nor should GI be mandated, but should be considered as an option where it is practicable. While NAFSMA

believes that GI can provide water quality benefits and has many other environmental benefits, we believe that flexibility is needed such that communities can make their own choices on the best means to achieve a water quality improvement goal. NAFSMA believes that the end point must be this water quality improvement goal. How an individual community achieves the goal must be left to that community, based on their own local values. NAFSMA members have already determined that in separate individual cases, GI, advanced wastewater treatment, and storage have alternately been determined to be the best approach.

- The integrated plan should allow wastewater treatment improvement as part of the solution, including wastewater treatment works upgrades in lieu of other infrastructure investments. NAFSMA members have experience in master planning for nutrient reduction within urban combined sewer and storm sewer systems. As an example, NAFSMA members have found that, in some cases, total nutrient load reduction can be greater with the improvement of wastewater nutrient removal than by limiting CSOs to one discharge per outfall per year. The integrated planning framework should allow for the community to consider all options to achieve a water quality goal and must not prescribe investment in any infrastructure that is less cost-effective than another at achieving the same ultimate goal.
- The integrated plan should allow stormwater infiltration or capture and reuse to be part of the solution to achieve water quality improvement goals. NAFSMA members have experience in large scale planning for the use of stormwater runoff as a resource.
- EPA's integrated planning framework is designed from the perspective of integrating permit requirements either for municipalities having to deal with multiple NPDES permits or for developing integrated plans across agencies dealing with different types of NPDES Permits. The framework should also provide the opportunity for multiple permittees within a single permit to work collaboratively to develop integrated plans.
- Under the integrated permitting approach, the ultimate goal should not be the delisting of impaired stream segments through WQBELs, but rather delisting through monitoring, modeling, and implementation of adaptive management techniques that are in line with the MEP standard.
- In lieu of WQBELs, other processes found in EPA's *Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act* [2006 Integrated Report Guidance (IRG)] such as the Category 5R option (in lieu of a TMDL) for waters with an identified impairment listed on the 303(d) list where a TMDL is needed, or the Category 4B option for water where no impairment has been identified (and where Category 4B requirements are strict enough to meet water quality standards and the water body is not listed on the 303(d) list), should be part of integrated approach. Where Category 5 is used in lieu of developing a TMDL, the time frame for showing improvement should be extended to more than six years. This framework should include an iterative process that meets the MEP standard used in traditional MS4 permits for stormwater discharges and not be held to a specific time table for improvement.
- EPA should consider longer periods for compliance under the integrated permitting approach. Five-year permits are a good start but many of the problems will take much longer to solve especially considering the funding options. Therefore, EPA should analyze strategies through which states can stretch requirements over several permit cycles, examples of which already exist in California and Oregon. This may be an opportunity to include an iterative process for compliance.

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- A use attainability analysis should be an option for the permittee with this approach. A study of the water body should be allowed and facilitated in cases where it is economically and technically feasible for the permittee in order to justify the classification and the impairment and to assure resources are consumed in the right places for the right reasons.
 - It is extremely important that any use of an integrated permitting approach does not become overly burdensome to public administrators to implement and/or monitor.
 - The clearly-defined end point must remain the delisting of impaired stream segments. So long as positive results are being attained within a reasonable time frame, flexibility must be paramount, with local communities driving the process and making their own choices on the best way to achieve water quality improvement goals. Finally, it must be noted that sanitary sewer overflow (SSO) mitigation does not benefit from the implementation of GI in the same way that CSO mitigation does, and communities whose primary source of impairment are SSOs may not achieve commensurable results with this framework.

This paper summarizes NAFSMA's understanding of the current state of EPA's *Integrated Planning for Meeting Clean Water Act Requirements* and documents NAFSMA's position on this matter, effective July 23, 2013.